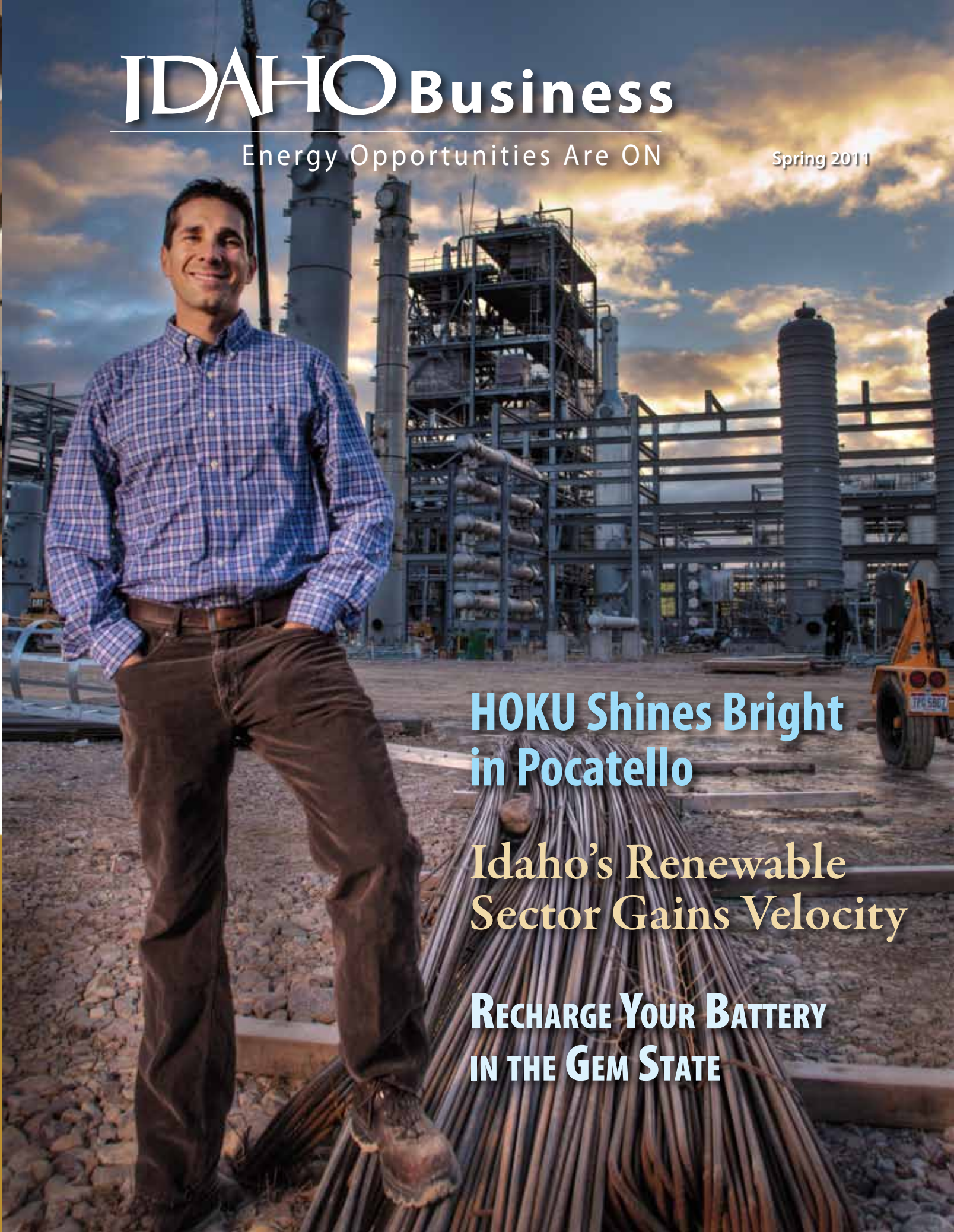
# IDAHO Business

Energy Opportunities Are ON

Spring 2011



## HOKU Shines Bright in Pocatello

## Idaho's Renewable Sector Gains Velocity

## Recharge Your Battery in the Gem State

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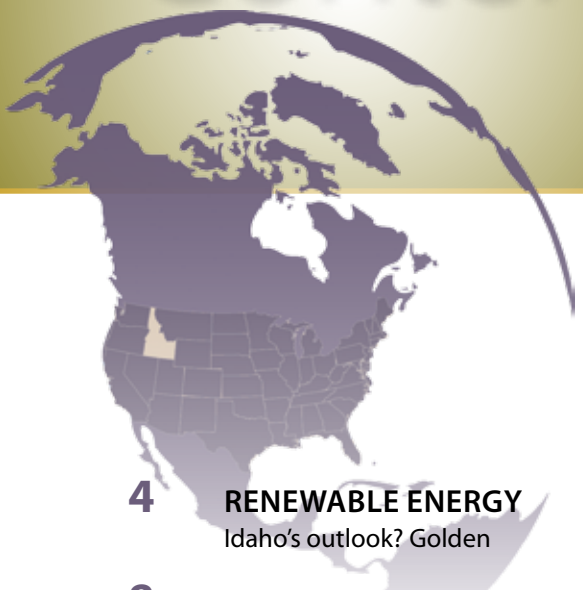

**Renewable Energy** 2011 Edition
renewable.idaho.gov

IDAHO Business
Energy Opportunities Are ON







MINERS: HECLA'S LUCKY FRIDAY SILVER MINE BIOMASS: IDAHO NATIONAL LABORATORY WIND: BRIAN JACKSON OF RENAISSANCE ENGINEERING

# A Message From Governor Otter

Idaho has traditionally been a natural resources state. When it comes to renewable energy, we have the raw materials in abundance, with hydropower, geothermal, wind, solar and biomass. We also are home to world-class energy innovation, with Idaho's entire higher education system engaged in groundbreaking research with the U.S. Department of Energy's Idaho National Laboratory and Center for Advanced Energy Studies.

Plus, we are uniquely situated in the Pacific Northwest for distribution of energy-related products. Several large new manufacturers in the renewable energy industry have launched operations in Idaho, taking advantage of our low business costs and strong labor force.

This isn't a fad. It's part of our heritage.

**visit us at renewable.idaho.gov | commerce.idaho.gov**

IDAHO Business
Energy Opportunities Are ON

**Editor** Julie Howard

**Art Director** Belinda Isley

**Contributors** Mark Mendiola
Malcolm Hong
Danielle Gruden
Tucker Slosburg

**Photographers** Joshua Roper
Chad Case
Glenn Oakley
Jake Putnam
Peg Owens
Belinda Isley

**Design, Production and Advertising**
Go! Publications, Inc.
205 N. 10th Street, Ste. #B100
Boise, Idaho 83702

For advertising inquiries, please contact
Go! Publications, Inc.
Teena Wright at teena@gopubinc.com.

For information on content, please contact
Department of Commerce,
julie.howard@commerce.idaho.gov.

Produced and printed in Idaho



**About the cover**: Idaho photographer Glenn Oakley traveled to Pocatello and met with Scott Paul, president and CEO of HOKU Corporation. Paul is standing in front of the nearly completed state-of-the-art polysilicon manufacturing plant. HOKU will ultimately create 250 jobs in the area.

# You're Gonna Love Our Carbon Footprint.

You might call it the five toes of our great carbon footprint; wind, solar, hydropower, geothermal and biomass. Until recently, Southern Idaho boasted that it produces commercial renewable energy in four out of five of these categories, but with the recent announcement of a major solar farm, we will soon have all five.

We know it takes more than a big foot and natural resources to make an alternative energy project viable. Southern Idaho has the infrastructure in the form of high capacity transmission lines to move power from the various sources to the grid. Without transmission, the energy is trapped. With so much alternative energy production going on, renewable sector manufacturing in Southern Idaho will boom. Almost two thirds of the renewables market is projected to site their projects in the western US. And we're working hard to assure a highly trained workforce that can deal with the manufacturing and servicing side of the business.

The College of Southern Idaho recently designed new "green" energy education programs to meet the needs of this growing and quickly changing economic sector.

So what about the other 5 toes? Got 'em covered; National attention, state support, we offer the opportunity, we have an entrepreneurial spirit, and we are optimistic that renewable is the next big thing, so 'hang ten, and surf southernidaho.org.

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# Renewable Energy **takes off in Idaho**

By Julie Howard

NICK MILLER: JOSHUA ROPER

Nick Miller on the steps of his historic Warm Springs Avenue home

Idaho Power's grid-connected 25-kilowatt photovoltaic array on the roof of its corporate headquarters in downtown Boise. Installed in 1994, the system's 90 solar panels supply electricity directly to the building—enough energy to power three or four averaged-sized homes in Idaho.

SOLAR PANEL IMAGE: BELINDA ISLEY

Nick Miller pays far less than you'd expect for the heat in his 3,500-square-foot historical home. That's because his home sits above a 3,000-foot-deep geothermal aquifer with temperatures at 175 degrees.

This natural source of heat is captured in a 120-year-old geothermal heating system that means that hundreds of homeowners like Miller and dozens of businesses nearby—don't sweat it when the once-a-year heating bill arrives.

Miller bought his home in the 1980s, soon after the last energy crisis, convinced that renewable energy was the way to go. Today, renewable energy has also become a new venture in his workplace. Miller oversees a new business unit at the Boise law firm of Hawley Troxell that focuses on renewable energy.

It's wind energy, however, that has entered Idaho in a big way. Last year, Hawley Troxell facilitated a nearly $500 million joint venture between Exergy Development and a division of GE that owns 122 wind turbines in Idaho. Miller anticipates the wind energy business is just getting started in the state.

"There's significant potential in wind energy in Idaho that has not been realized," says Miller. "It's outpacing other renewables right now."

While wind is certainly the most prevalent renewable resource under development, a full suite of renewables is building in Idaho, according to the state Office of Energy Resources. Biogas, methane, solar and forest biomass are also growing.

"Based on external realities, it is nearly impossible to build resources that have large carbon footprints," says Paul Kjellander, administrator of the Idaho Office of Energy Resources. "As Idaho-based customers push the demand for more energy, it is likely renewable energy will play a significant role in filling those future needs."

Idaho's Legislature placed an emphasis on encouraging renewable energy in its 2007 Energy Plan. Governor C.L. "Butch" Otter then created the Office of Energy Resources and established the Idaho Strategic Energy Alliance to streamline the development of renewable resources.

"Idaho has seen a dramatic increase in the amount of energy being produced from renewable energy resources," said Kjellander. "The ultimate objective is to develop Idaho-based resources in a manner that enables the state to maintain some of the lowest cost power in the nation."

The Golden Valley Wind Park outside of Burley, is part of the "Idaho Projects," invested and owned by Idaho Wind Partners consisting of: Exergy Development Group, GE, Reunion Power, and Atlantic Power. Construction was completed in December 2010.

Governor Otter sees a strong future for these industries in Idaho.

"We have unique resources in Idaho with abundant geothermal, wind, solar and biomass," said Governor Otter, whose office sits in America's only state capitol building heated by geothermal energy. "In addition to the raw materials, we also have a good business climate for companies interested in manufacturing components for this industry."

> Governor C.L. "Butch" Otter sees a strong future for these industries in Idaho.

The attractiveness of Idaho's business climate has drawn a number of renewable energy companies to the state. The state boasts a variety of elements that make it a viable laboratory and manufacturing center for companies focused on the renewables industry.

Two of those elements include the Idaho National Laboratory along with the state's universities that each has strong programs in renewable energy. Research areas include wind technologies, fuel cells, low-power batteries, electric car technologies, kinetic energy capture, biomass, and new alternative fuels. In addition, the state ranks tops in patents per capita in the nation, speaking to the engineering and entrepreneurial talent working there.

Perhaps because of this and other attributes, the Pew Institute named Idaho as the state expected to have the fastest growth for green jobs. Last May, the American Legislative Exchange Council said Idaho had one of the best economic outlooks in the nation.

Clearly, renewable energy is the rising industry for a new decade and Idaho appears poised to rise with it.

"It's just good business to encourage these industries," said Governor Otter. "Sustainable, renewable energy is going to play a big role in Idaho's future. We're ready for it."

There's no doubt that green energy will continue to flourish and also change the way people live. Twenty-five years after buying his geothermal house, Nick Miller weighs the possibility of purchasing an electric car.

"Boise has very low electricity rates so that's another reason an electric car would be a good idea," he says. "Plus, we have relatively flat ground and short commutes. I'm looking at it." ◆

CAPITOL IMAGE: JAKE PUTNAM

## Idaho's renewable energy history

Idaho has a history of using renewable energy, especially when it comes to hydropower and geothermal energy.

The state has among the lowest electricity rates in the nation because of the availability of hydropower. According to the U.S. Geological Survey, in 1995, all of Idaho's power came from hydroelectric plants. By comparison, 7 percent of the nation's energy comes from hydropower.

Today, other types of energy sources are needed to fulfill the state's needs.

Idaho also has a unique history in using its vast geothermal resources. Boise has the oldest geothermal system in the nation, according to the Idaho Office of Energy Resources. This system—called the Boise Warm Springs Water District—has been in operation since 1892, heating more than 200 homes.

The system also heats the State Capitol, the only U.S. capitol building heated by geothermal energy.

The geothermal system also gave rise to the Boise Natatorium, built in 1892, described as "an exotic vision of Moorish towers and arches," that included a geothermal-heated pool. A wooden dance floor expanded across the pool for special occasions and an amusement park was next door. Residents would ride the old Boise street car to visit the city's most popular attraction. The old building was destroyed in a storm in 1932.

In the 1980s, three more geothermal heating districts were created in Boise. Combined, they heat more than 300 homes, businesses and state office buildings.

Today, new lines heat more city buildings and stretch to the campus of Boise State University. ◆

NATATORIUM: FROM THE COLLECTION OF IDAHO STATE HISTORICAL SOCIETY

Heralded as a health and pleasure resort in Idaho, the Natatorium was completed in 1892. Using natural geothermal hot water, the popular pool delighted swimmers until it's demolition in 1934.

# High Tech, Health Care, Manufacturing Are Top Employers

The 2010 spud crop is harvested on Greg Risenmay's farm just outside of Osgood

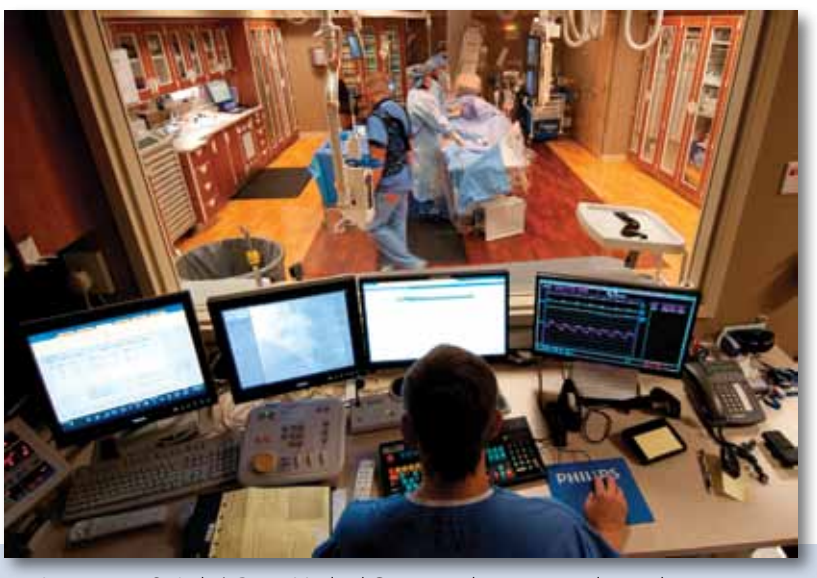
HARVEST PHOTO: JAKE PUTNAM

The potato has reigned as the image of Idaho for decades. Many people are surprised to find that the state's top industries are retail trade, health care and manufacturing. Agriculture, while still a large industry in the state, is no longer dominant and is now at the bottom of Idaho's top 10 industries.

Idaho has long been home to a host of national and international companies, spanning manufacturing, agriculture, natural resources and high-tech. Among the most well-known are JR Simplot Co., URS, Micron Technology, Inc. and Boise Cascade. Hewlett Packard has a large research facility in Idaho, and Microsoft has a research arm there as well.

Idaho's high-tech industry has fostered a number of start-up firms, creating a dynamic environment in the state's urban centers.

Manufacturing, in particular, has shaped the state through its growth over the past two decades. Semiconductor firms such as Micron Technology, ON Semiconductor and Comtech AHA Corp. are major employers in their regions, providing high-wage jobs.



A patient at St. Luke's Boise Medical Center undergoes a cardiac catheterization procedure in the hospital's new state-of-the art cardiac catheterization lab – one of two new labs opened in 2010.

MEDICAL PROCEDURE: ST. LUKE'S MEDICAL CENTER

Motive Power, the nation's largest locomotive manufacturer, and manufacturers making everything from jet boats to instruments for the nuclear industry have found success in the state.

continued on page 31


“AS THE GLOBAL SPECIALISTS IN VEGETABLE GENETICS, we know a thing or two about finding top scientists from around the world. And that’s why we located in Idaho, where a skilled workforce and a pro-business climate help our company truly flourish. The state’s low-tax, can-do business climate makes perfect sense for us.” RON AMAREL Managing Director of Operations | NUNHEMS Parma, ID
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# WIND DEVELOPERS Find a Sweet Spot in Idaho

By Julie Howard and Mark Mendiola

The Gem State is rapidly gaining velocity among wind developers.

Companies like Exergy Development Group and the Blackhawk Project recognize Idaho's potential and are eager to tap the state's wind potential at strategic sites.

Exergy, headquartered in Boise, in December 2010 completed the largest wind project in Idaho with 122 turbines installed between Hagerman and Burley. The project, which generates 183 megawatts, is now primarily owned by the GE Corp., and Exergy remains a minority shareholder.

But Exergy isn't done in Idaho. The company has another 196 megawatts of wind projects set to be installed in the next 18 months at various Idaho locations. (Another project this year includes putting several anaerobic digesters in place in Idaho's Magic Valley, where there are a number of large dairy operations.)

For now, however, wind is at the forefront for Exergy.

"We're striving for installing 200 to 250 megawatts of wind annually for the next couple of years," said James Carkulis, Exergy's CEO and president. His company's next goal is to roll out a new turbine design in 2012, he said.

Boise has good logistics as a headquarters for a national company, Carkulis said. He moved Exergy to Idaho in 2004 because of the ease of access from Boise to other U.S. locations.

"The airport here is very easy to get in and out of," he said. "Beyond that, Idaho overall has a very good business environment. There's a good work ethic here, and there are good quality firms here that we can do business with."

A number of wind projects have either come on line or queued up during the past five years.

Ridgeline Energy, LLC, developed Idaho's first large-scale wind farm, the 65-megawatt Wolverine Creek wind farm near Idaho Falls. The project, which came on line in December 2005, was sold to Invenergy Wind LLC.


College of Southern Idaho students performing a mock hub inspection at Suzlon Mountain H

Last fall, Ridgeline Energy and BP Wind Energy started commercial operation of the single largest wind farm in Idaho. Located on an 11,000-acre site near Idaho Falls, the Goshen North Wind Farm utilizes 83 wind turbine

Amie Hernandez "First Lady of CSI Wind"


Bruce Boatner of the Blackhawk Project stands beside an articulating turbine blade. They received a patent in 2010 for the system.

generators, each with a rated capacity of 1.5 megawatts. The project will generate enough electricity for more than 37,000 average American homes annually.

The power from the Goshen North Wind Farm has been sold under a long-term power purchase agreement to Southern California Edison.

ome wind farm site

Pavilion Energy Resources in September 2010 announced it is part of a joint venture project that will build a new wind turbine manufacturing facility in Idaho to mass produce proprietary 3-4 megawatt accelerating wind turbines to fulfill an initial $100 million turbine order.

The number of new projects kept the Idaho Public Utilities Commission, which regulates this industry, busy in 2010.

In December 2010, the Idaho Public Utilities Commission accepted sales agreements between Idaho Power Company and a San Francisco developer for six wind projects near Mountain Home.

The Idaho PUC estimated the six projects—Cold Springs, Desert Meadow, Hammett Hill, Mainline, Ryegrass and Two Ponds—will generate 303,648 megawatt hours annually.

Also in December, the commission gave the green light to Meridian, Idaho-based Idaho Winds LLC, which has plans for a 21-megawatt Sawtooth Wind project near Glenns Ferry. The wind farm is scheduled to be operating by the end of 2012.

In November, the commission approved the 80-megawatt Rockland Wind Project, which will go on line by the end of this year.

Bruce Boatner, principal engineer for the Blackhawk Project in Boise, said Idaho's natural wind and open terrain makes the state ripe for more development.

"The potential is there," he says. "We've got the wind."

Boatner's own project is a new turbine technology that he calls the "first major step in wind technology in 80 years."

The Blackhawk Project has gone through two years of building and hardening prototypes for its articulating turbine system, which was granted a patent with 22 unique claims in March 2010. "This has never been done before in a vertical access wind turbine," Boatner said, stressing it has been tested with success under very severe conditions in the Owyhee Mountains of southwestern Idaho.

A prototype of the Blackhawk wind turbine has been operating for a year and a half at the Center for Advanced Energy Studies (CAES) in Idaho Falls, surviving sustained winds of 115 miles per hour on a regular basis.

"We're at the point we need to have some very precision machining done," Boatner said. "The next big step is for somebody to write a check. We are trying to partner with a mature manufacturing/engineering entity to basically bring this device to market. There's lots and lots of interest, but nobody's standing with us at the altar yet." ◆

# SOLAR

## Shining Bright in Idaho

By Julie Howard

Scott Paul leads Hoku Corporation from his Honolulu office, but these days he's spending more and more time in Pocatello, Idaho.

"When I have a free morning or weekend day, I like to run on the City Creek trail," says Paul, referring to a 50-mile network of single-track biking and creek side hiking trails that sits within the Pocatello city limits.

But most often he's in his suit and tie, supervising final touches at the company's Hoku Materials subsidiary, a $400 million polysilicon manufacturing plant that is nearly completed.

Scott Paul of Hoku Corporation

The sprawling new facility is just one of Idaho's growing success stories in the solar industry. The manufacturing plant will have 250 full time employees when at full throttle later this year. Across the state to the west is another new solar manufacturing facility, a co-venture by Micron Technology and Origin Energy—called Transform Solar—that will hire hundreds.

Beyond the large manufacturers are dozens of newcomers to the business. Recent Boise start-up Inovus, which has designed a flexible solar panel that wraps around utility poles, is one of the fastest-growing businesses (in terms of revenue) in the state. To the far north is Solar Roadways, a company that has captured media attention around the world for its creative and audacious idea of turning the nation's roadways into a solar-collecting electrical grid.

The promise of solar energy is stronger than ever, both in terms of usage and profits.

"The United States remains a relatively untapped market for photovoltaic projects," says Paul. "We see opportunity for tremendous growth in the U.S. over the next five years."

Commercial rooftop projects are likely to lead the way, he says, because of the complex regulatory framework involved in utility-scale solar farms. They're also "relatively easy to engineer, construct, finance—and the economics are attractive," Paul adds.

Clay Young is more intrigued by the idea of wrapping utility poles around the world with his solar product—a flexible panel of solar collecting material. Eliminating power bills, significantly reducing infrastructure costs and adding the increased functionality of remote monitoring are the key advantages of Inovus Solar's product.

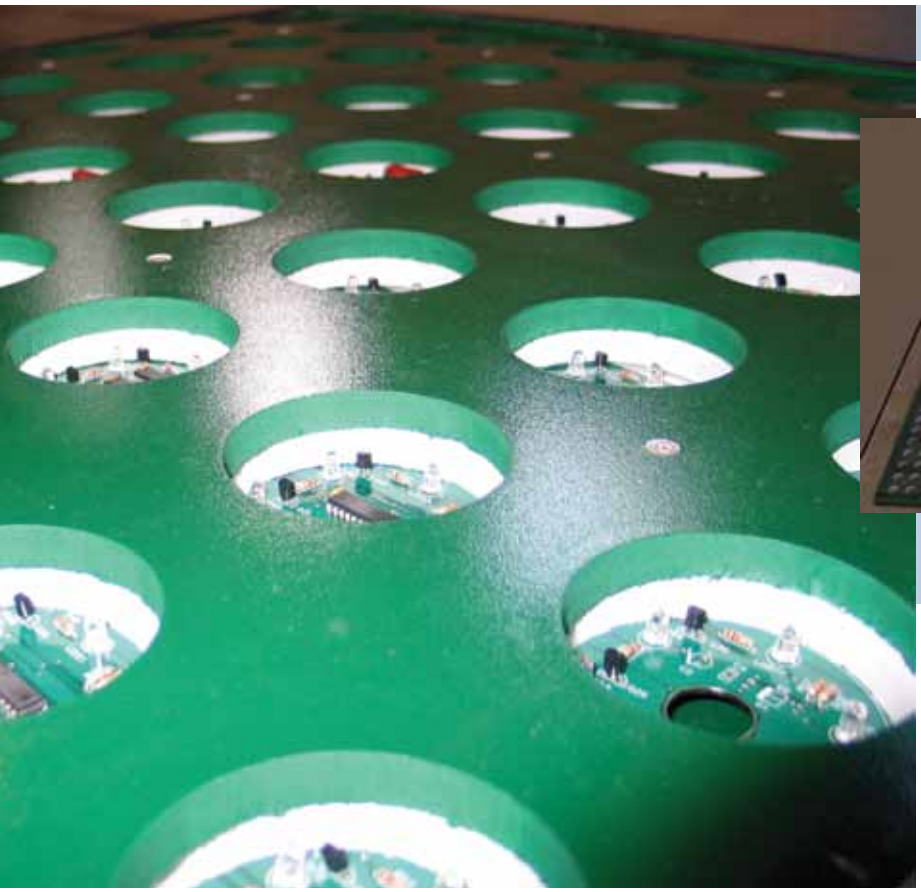
"We think solar growth is going to be pretty strong," says Young. "The demand for power is growing so fast that we'll have to put incremental sources of energy online."

Inovus has a unique niche—utility light poles. According to Young, there are about 200 million light poles worldwide, with 95 percent of them owned by municipalities, utility companies, or large private firms (think Walmart or Target, for instance).

"We use solar to eliminate the cost of lighting in the street and parking lighting category," he says. "Our entire vision around the company is that we obsolete the concept of paying power bills for lighting."

Having stand-alone lighting poles that don't require infrastructure cost beyond the pole or ongoing power bills means the return on investment is around two years, according to Young. The idea is catching on. Inovus now has its product at 54 sites in 10 countries and the company had nearly a 100 percent growth rate in 2010.

Fascinating future technologies in capturing and using solar energy are in various stages of research and development in Idaho. At the Idaho



Scott Brusaw stands on a prototype of his solar roadway. The inventor has received DOE funding to further develop his product.

National Laboratory, a Department of Energy facility, scientists have two solar projects underway.

One project involves harnessing infrared radiation to produce a solar cell that will work even at night. INL scientist Steven Novak is using nano-antennae that are grafted onto the surface of photovoltaic solar panels. That means the panels could be able to capture the energy of electromagnetic radiation—and not just the portion of visible light that contemporary solar cells use.

The other INL project currently underway is developing ways semiconducting nanoparticles can be used in solar cells. The breakthrough technology, which makes solar cells more efficient, was named one of the top 100 innovations of 2009 by R&D magazine. The technology, created by INL chemist Bob Fox and two researchers from Idaho State University, has now been licensed to a company called Precision Nanoparticles Inc.

Scott Brusaw sees solar potential nearly everywhere—playgrounds, racetracks, sidewalks and mostly, roads. Brusaw's Solar Roadways has piqued the attention of the U.S. Department of Energy with its concept of making a roadway material that could capture and transmit solar energy.

"We have a crude prototype of our product, but we still have a lot of work to do before going to market," says Brusaw, whose company is based in Sagle, Idaho and has received DOE funding. "We're probably still two years away from manufacturing."

The idea that a type of solar panel could be used in roadways doesn't seem so "out there" to Brusaw, who points out that solar cells are already ubiquitous—in everything from pond fountains to clothing. He believes a number of factors are propelling the solar movement forward – from global warming to broken infrastructures—and that there is much more to come.

"I can see solar growing by leaps and bounds," he says. "The timing for (us) is perfect and the Solar Roadways project just captures the imagination." ◆

Seth Myer, CTO, with Inovus' flexible solar material

SOLAR ROADWAYS: MARK DIXON OF YERT INOVUS SOLAR: BELINDA ISLEY

# GEOTHERMAL

## From FISH and FLOWERS… to the GRID

By Mark Mendiola

U.S. Geothermal contributes to Idaho's energy supply with its plant in Raft River

If Idaho ranks high among states in its potential to harness widespread renewable geothermal resources, primarily because of its history of tectonic and volcanic activity that has thrust large sections of the state's land mass into geologic contortions.

The state's numerous hot springs attest to the capability of Idahoans to tap high temperature pools below the surface of the state's diverse topography and convert that geothermal reservoir into sustained heat and energy for use in aquaculture, greenhouses, agriculture, space heating and a variety of other applications.

Leo Ray, owner of Fish Breeders of Idaho between Buhl and Hagerman, and Chris Florence, co-owner of Sweet Valley Organics 45 miles northwest of Boise, are far apart in distance and professions, but both praise the tremendous value of using Idaho's vast geothermal resources for profitable commercial ventures.

Idaho's potential 855 megawatts of marketable, reasonably priced geothermal power make it third behind California and Nevada, according to the Western Governors Association.

Boise-based U.S. Geothermal has not only developed the Raft River geothermal power plant in southeast Idaho but has two other projects underway in Nevada and Oregon. Upon completion of these two additional projects—at San Emidio, Nevada and Neal Hot Springs in Oregon—the company will have three operating projects with a total of 62 gross installed generation capacity, resulting in 45 megawatts of net generation capacity.

The company also holds geothermal energy rights to 69,500 acres comprising six advanced state geothermal development projects.

In addition to Raft River, a number of Idaho sites are thought to be capable of developing geothermal power generation, including the Crane Creek area near Weiser in southwestern Idaho, Roystone Hot Springs near Sweet and Magic Reservoir near Hailey in central Idaho.

Thermal springs and geothermal resources in Bannock, Blaine, Camas, Lemhi, Owyhee and Valley counties also could provide development opportunities given sufficient exploration, experts say. While exploration and development of geothermal power are expensive, actual operational costs are among the lowest of all power sources.

The use of geothermal resources goes beyond power generation.

Leo Ray, who has been raising commercial fish for nearly 40 years with geothermal water in the Snake River canyon, estimates that his eight artesian geothermal wells produce 4,000 gallons a minute for his fish farms at between 90 and 95 degrees Fahrenheit. That makes raising warm water fish such as tilapia and tropical fish

Geothermal radiant heating is in the floor of Sweet Valley Organics' greenhouses to heat plants from the ground up

possible in a cold water climate.

Ray also raises trout, sturgeon and catfish. "What I do wouldn't be feasible at all without geothermal," said Ray, who also owns Fish Processors of Idaho. He notes that the geothermal water is ideal for aquaculture and other uses.

In January 2010, Fish Breeders of Idaho started growing aquarium fish, which Ray sees as a major expansion area for his business. Such tropical fish fetch $30 a pound as opposed to tilapia and catfish, which are sold for a few dollars a pound.

Because of an efficient transportation system, Fish Processors of Idaho can ship commercial fish to every major western city twice a week within 24 hours from when they are processed, Ray said.

Chris Florence says his six-acre family organic farm's 3,000-square-foot greenhouse near Emmett is flourishing because of runoff hot water it uses from a residence that uses geothermal heat to warm a swimming pool, hot tub and an entire house.

"I think as far as Idaho is concerned wherever there is geothermal water, there is great potential for all sorts of different projects," Florence said. Successful greenhouses in Hagerman, Bruneau, Eagle, Garden Valley, Murphy and other Idaho communities also tap geothermal as a relatively inexpensive energy source.

It can cost $2,000 to $10,000 a month in propane to heat greenhouses, but geothermal heat sharply reduces that overhead expense and enhances profits. In its third year of production, Sweet Valley Organics supplies Treasure Valley farmers' markets and restaurants in Boise and Sun Valley with whole tomatoes, eggplants, peppers, squash, melons and pumpkins.

"Geothermal has worked out really well," Florence said, noting when the greenhouse was constructed, radiant heating was put in the floor to heat plants from the ground up, which plants prefer. "Soil temperature is more important than air."

Florence and Chance Morgan, his brother-in-law and co-owner, also have piped geothermal water to a one-acre plot where crops are planted, running the pipes on top of the ground to heat beds. "We can plant much earlier than the last frost date," he said. "This year we planted tomatoes in the second week of April, which gives us a significant advantage."

Sweet Valley Organics plans to construct another 3,000-square-foot greenhouse and install a processing kitchen in 2011. Greenhouses could be added each year for the next few years, Florence said.

"We would just like to see geothermal promoted more as an alternate energy source and do a good job of exploring it, locating it and developing it," he said. "Most of us would rather see energy coming from geothermal and other renewable sources rather than burning up more coal and oil."

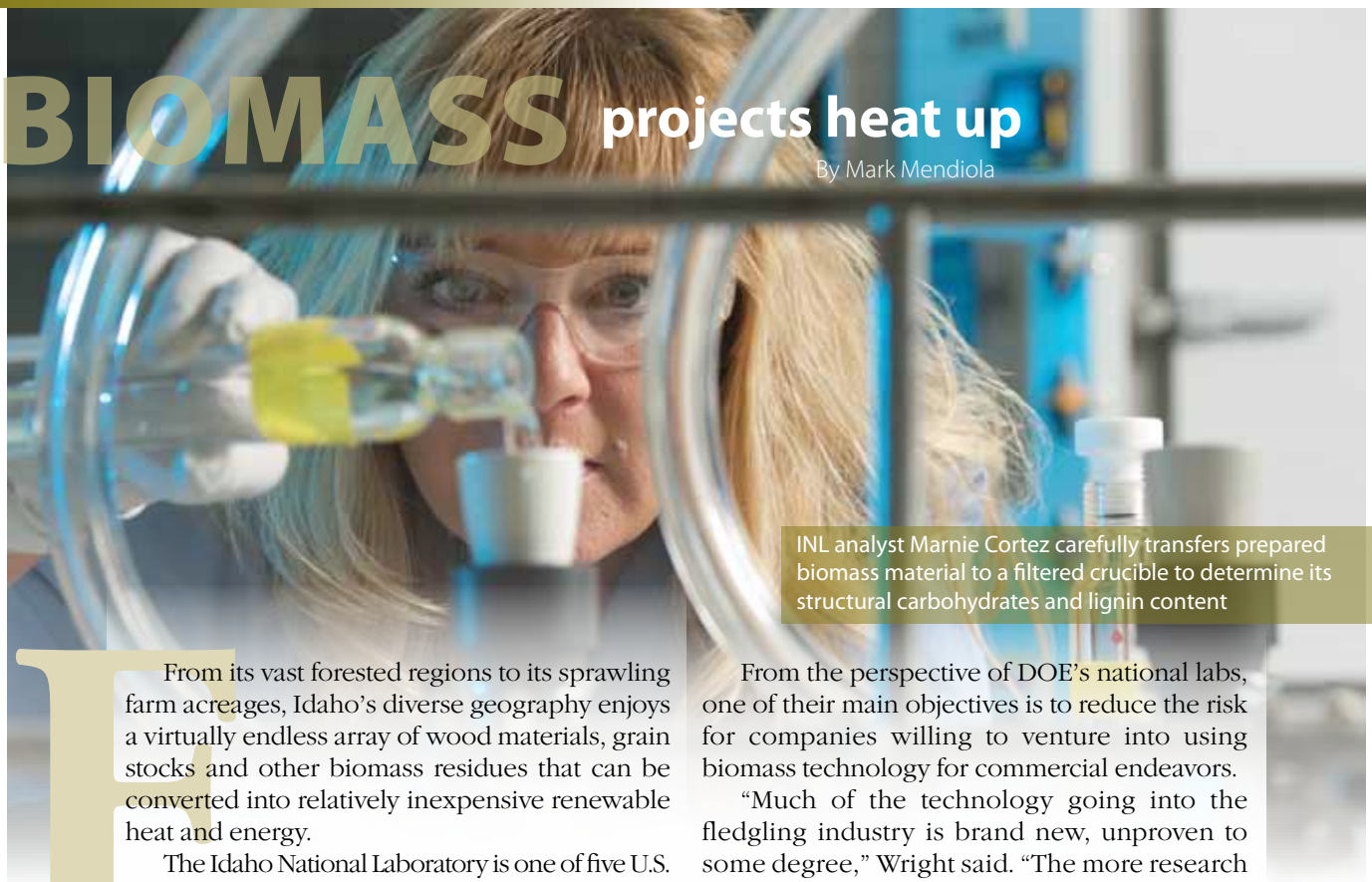
Paul Kjellander, administrator of the Idaho Office of Energy Resources, said geothermal "has a lot of raw potential at the end of the day." The challenge will be to secure the financing to develop it and expand transmission capacity for sending its electricity to market.

"Idaho is in the position, as more money returns to investment markets, for geothermal to have direct and indirect uses," said Kjellander. "We need to look at what the real opportunities are. It is not inexpensive to develop, but it is a firm resource you can dispatch." ◆

FARM IMAGE: SWEET VALLEY ORGANICS

# BIOMASS projects heat up

By Mark Mendiola



INL analyst Marnie Cortez carefully transfers prepared biomass material to a filtered crucible to determine its structural carbohydrates and lignin content

From its vast forested regions to its sprawling farm acreages, Idaho's diverse geography enjoys a virtually endless array of wood materials, grain stocks and other biomass residues that can be converted into relatively inexpensive renewable heat and energy.

The Idaho National Laboratory is one of five U.S. Department of Energy sites devoting significant resources to making "bio energy" technology as risk-free as possible to help ensure its commercial marketability and reduce the nation's dependence on foreign petroleum imports.

Dr. Chris Wright is the INL's senior research engineer in biofuels and renewable energy. Up to 35 full-time INL employees—ranging from scientists and engineers to support staff—work strictly on biomass projects.

"We've been working in this area for DOE for about nine years now. In the last five years, there has been a very rapid progression and expansion of our program," Wright said.

INL researchers are concentrating on moving herbaceous materials like grasses and wood "slash" from outdoor fields to processing sites.

Because Idaho is a large agricultural state, its biotechnology potential is huge, he said, stressing wheat and barley crops are drawing the attention of biotech companies interested in their ethanol attributes and very stable yields.

Wright emphasized it is not the food-based parts of the wheat, barley and corn grown in Idaho that would be used for biomass, but their remaining stalks, stems and leaves.

Idaho's heavily wooded areas used for logging also have very high biomass potential. "The technology is sound," Wright said. "Whether it's wood or agriculture residue, the process is similar."

From the perspective of DOE's national labs, one of their main objectives is to reduce the risk for companies willing to venture into using biomass technology for commercial endeavors.

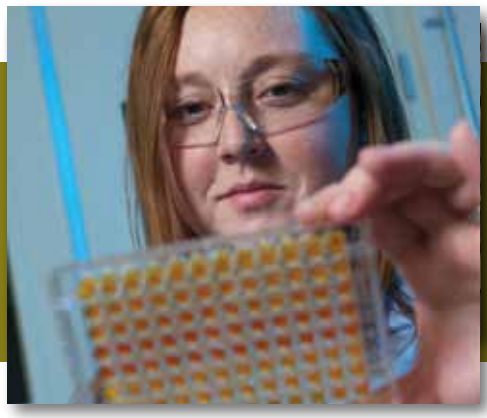
"Much of the technology going into the fledgling industry is brand new, unproven to some degree," Wright said. "The more research we can provide and demonstrate certain technologies as viable and competitive, banking industries feel like they can invest and have reasonable security to get return on their investment."

INL tends to act as an independent broker backing up embryonic technologies with its reputation for solid, sound research. Some of the technologies are in construction phases; some in small lab facilities.

"It's likely the next two to three years, we will see an amount of actual ethanol production actually put into the market, moving into a phase to demonstrate larger scale facilities. There's a lot of promise here," Wright said.

Dynamis Energy of Eagle, Idaho, has finished engineering a sophisticated $40 million-to-$60 million gasification plant designed to convert 250 tons of garbage unloaded daily at Ada County's Hidden Hollow landfill into electricity. The Idaho Department of Environmental Quality is reviewing the project as it proceeds through the permitting process. The plant would be on five acres.

Dynamis Energy also is negotiating with the Eastern Idaho Solid Waste District based at Dubois to construct a similar plant. Securing electricity purchase agreements with Idaho Power is a key to the success of both plants, said Pete Johnson, the company's vice president of business development.



Far Left: Researching microbial conversion of biomass, INL microbiologist Emily DeCrescenzo Henriksen, Ph.D., determines which bacterial enzymes are cost competitive for cellulosic biofuel production

Left: Dump trailers at the Council School District biomass collection site for the Fuels for Schools project that uses the biomass to heat the school

A full production plant using the same proven technology has been operating at Beryl, Alaska, since 1996, Johnson said.

"It's gasification technology, not incineration. That's a big distinction," he said. "It doesn't require a lot of emissions equipment. It cuts down on capital and operating expenses on an ongoing basis."

Dynamis hopes to start construction on the Hidden Hollow project during the first quarter of 2011 and complete it by the following year. Up to 120 workers would be employed during the construction phase, and nearly 50 permanent jobs would be created when it is operating.

"We take the waste as it comes off the garbage truck either from front-end loaders or a conveyor belt," Johnson explained. "Our technology is the only proven technology where you do not have to dry or pelletize."

The waste does not need to be pre-sorted or shredded, either. It goes into separate chambers within the plant where it is heated for eight to 12 hours and vented as high temperature synthetic gas into a boiler where water is heated to propel a turbine that creates power.

"It is unusual, but it also is what makes our system the next generation gasification technology. Few others can do what we do," Johnson said.

When the process is complete in the primary chambers, bottom doors open and drop sterile ash and other residuals onto a conveyor. Magnets salvage ferrous and nonferrous metals, depositing them into bins for recycling.

Ada County hopes to transform Hidden Hollow into an energy park by also allowing another company to turn methane gas from the landfill into renewable energy, Johnson said.

Murray Dalgleish, Council School District superintendent, has learned firsthand the benefits of renewable energy. Hundreds of visitors from throughout the nation have traveled to this small community near McCall to be educated about a biomass wood chip heating system in its ninth year of heating water to keep classrooms warm.

Nestled along the Weiser River, Council is surrounded by timbered mountains of the Payette National Forest. The school district's wood chip heating system sharply reduces its fuel costs while using a plentiful resource in the region—rough, lower quality slash wood from sawmills.

Dalgleish estimates the Council district was spending $40,000 to $50,000 in six months to buy heating fuel for its classrooms before going to the wood chip system. The savings has been an astounding 90 percent.

The money saved in fuel costs was used to retrofit the Council district's schools with sensors in all rooms, change out all lights and install a passive air conditioning system. A temperature of 75 degrees is maintained in two greenhouses by using biomass hot water.

"We're trying to show people that even in a small district like this with 240 kids, we can heat 75,000 square feet of building for less than $5,000," Dalgleish said. "A lot of people are waiting for somebody from outside to come in to do a system. They ought to be looking locally to do it themselves."

Adams, Boise, Gem and Valley counties are participating in the Woody Biomass Utilization Partnership to encourage the wood industry to re-establish itself in Southwest Idaho.

Boise Cascade sawmills were shut down in Council in 1995, Horseshoe Bend in 1998 and in Emmett and Cascade in 2001. The partnership hopes to reverse that trend by producing bio energy and a full range of bio-based products, including lumber, composites, paper and pulp, from second growth in the Payette and Boise national forests.

In November 2010, the Idaho Public Utilities Commission approved a 15-year electricity purchase agreement between Idaho Power and Yellowstone Power, Inc., which is developing a $28.5 million biomass cogeneration plant at the new $11.5 million Emerald Forest Products sawmill in Emmett that will produce 11.7 megawatts in heat and power.

"My charge is to reinvigorate the timber industry by getting us back into using the resources we have," said Morris Huffman, the partnership's coordinator. "We're beginning to get some industries back." ◆

# ELECTRICAL TRANSMISSION SYSTEMS **GET A BOOST With New Projects**

By Malcolm Hong

TRANSMISSION IMAGES: IDAHO POWER

Paul Kjellander, Office of Energy Resources

Increased power generation—renewable or not—needs transmission lines. And Idaho has several new projects that will significantly increase transmission capabilities throughout the state.

The Gateway West project will create roughly 1,150 miles of transmission lines between Wyoming and Idaho. This is one of the largest transmission projects in the United States and is scheduled to be completed from 2014 to 2018.

Another major proposal is the B2H Project, which will create a new 500 kilovolt transmission line from Boardman, Oregon, to Melba, Idaho. Construction is anticipated to start in 2013 and this project would improve system reliability, allow for greater transport of energy across the Northwest, and allow electricity service providers to maintain low costs of energy.

"Transmission is the critical piece of infrastructure that is the key to success for future renewable energy development in the West," said Paul Kjellander, Administrator of Idaho's Office of Energy Resources. "We simply need more transmission capacity if we want to

move renewable power from remote areas to large load centers. Without more transmission, many renewable energy projects would be stranded with no way to get the power to market."

Idaho already has key transmission capabilities. The state is a critical location in the Western Interconnect Electrical System, the grid of transmission lines that connect the Canadian provinces of British Columbia and Alberta, the states west of the Rocky Mountains, and the Baja region of Mexico. Because of its location in the system, Idaho can get power from the appropriate sources and channel it where it is needed.

Location near significant transmission pathways helps renewable energy companies in Idaho, giving them better access to the grid to sell their electricity. In addition, with companies moving to Idaho because of its low electricity costs, demand for power has increased.

To meet these demands, Idaho's investor-owned electric utilities are planning to add up to 7,500 megawatts of generating capacity to their system through 2017. ◆

# BOISE & the Treasure Valley

The scenic Sawtooth Winery in Nampa, Idaho

The Boise metropolitan area, with a population of more than 600,000, is actually made up of a number of cities and communities. The city of Boise is the state's capital and its political center, complete with a vibrant walking downtown, urban university, and historic neighborhoods. Clustered near are the communities of Meridian, Nampa, Eagle, Emmett, Caldwell, Garden City and Star. All of these areas together, along with a few smaller towns, are known as the Treasure Valley.

This metropolitan area is home to a number of high-tech firms, from Micron Technology and Hewlett-Packard to Sybase and Microsoft. Strong entrepreneurial spirit drives a thriving start-up culture, and successes include Clearwater Analytics, Inovus Solar and Keynetics.

Boise is also home to the giant Simplot Co., WinCo Foods, and large health care organizations, St. Luke's Health System and St. Alphonsus Regional Medical Center.

The area is notable for its series of scenic parks that string along the Boise River winding through the middle of the urban core, and the view of foothills that rise from the valley floor. A 26-mile greenbelt pathway with connecting arterials means walkers and cyclists are always out in full force, with great views of the fly fishing and kayaking on the river.

Outdoor recreation—from skiing to mountain biking—is easy to access from the state's largest urban area, but the area also boasts great dining options, a dynamic arts community and the state's largest wine region. Nearly three dozen wineries are in the Treasure Valley, offering award-winning wines, and the Idaho Shakespeare Festival and internationally acclaimed Trey McIntyre Project offer world-class entertainment. ◆

BOISE IMAGE: CHAD CASE PHOTOGRAPHY

# TWIN FALLS & the Magic Valley

Twin Falls is in the heartland of Idaho, which means food processing and distribution is at the core of its industry.

The region is the largest freshwater trout producer in the United States and several cheese and milk product companies—Glanbia Foods, Darigold, Jerome Cheese Company—take advantage of being near large dairy operations. (Idaho is one of the nation's largest milk-and-cheese producing states.) Seneca Foods, Amalgamated Sugar Company, and Lamb Weston Con Agra are other large food processing companies here.

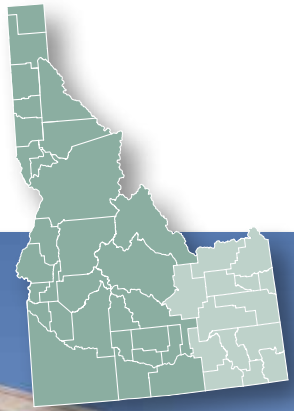
The Canyon Crest Event Center in Twin Falls

Manufacturing companies such as Hilex Poly and Jayco also take advantage of low business costs and a dedicated, skilled workforce.

The College of Southern Idaho offers customized workforce training programs in a number of areas, supporting local businesses and industry.

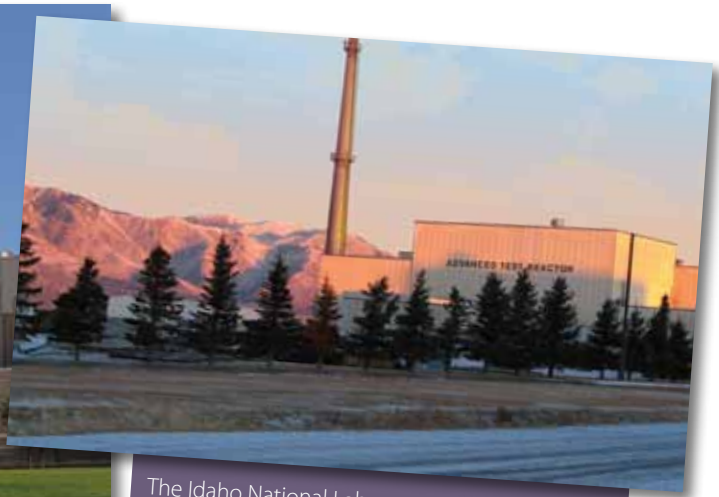
Finding things to do is just a matter of stepping out your door. For some, it's a matter of jumping off a bridge! BASE jumping is one stunning activity that is amazing to watch, as extreme recreationists come from all over the world to Twin Falls, one of the few legal places in the U.S. for this sport. The Perrine Bridge, which crosses 486 feet over the Snake River, is the site for BASE jumping, which involves freefalling from the bridge and opening chutes just seconds before hitting the water below.

For those into less extreme activities, the region offers a wide spectrum of recreation—from the world renowned ski resort of Sun Valley just 70 miles away to soaking in the hot springs in an area known as Thousand Springs. ◆



# POCATELLO / IDAHO FALLS

The Stephens Performing Arts Center on the campus of Idaho State University



The Idaho National Laboratory

Pocatello and Idaho Falls are two distinct metro areas, just 50 miles away from each other, that have great synergy. Idaho Falls is home to the giant Idaho National Laboratory, one of the state's largest employers. Pocatello is home to Idaho State University, which has nationally recognized programs in pharmacy, business and the health sciences. The university also works in cooperation with INL in the Center for Advanced Energy Studies, a public/private research and educational partnership focused on energy.

Eastern Idaho has one of the highest per-capita concentrations of PhDs in the nation, and high school graduation rates far exceed the national average. The area is also home to BYU-Idaho and Eastern Idaho Technical College; University of Idaho, based in northern Idaho, also has a satellite campus here. Large employers, aside from INL and ISU, include ON Semiconductor, Heinz Frozen Foods, Portneuf Medical Center, Eastern Idaho Regional Medical Center, CH2M Hill, and Melaleuca, Inc.

The region provides spectacular views of several mountain ranges that change dramatically with the seasons. Lofty peaks covered in snow and gently rolling green foothills provide ever-changing views for residents of these valleys. The area draws vacationers enjoying nearby Yellowstone and Grand Teton National Parks, fly fishing at Henry's Fork or mountain biking on a variety of maintained trails.

Residents also enjoy several world-class entertainment venues and events. Idaho State University's hilltop Stephens Performing Arts Center attracts dynamic music, dance and theater performances and the university's Holt Arena draws the annual Dodge National Circuit Finals Rodeo which brings nearly 30,000 spectators.

The Willard Arts Center, in three historic buildings in the heart of Idaho Falls, offers visual and performing arts. The center consists of an art gallery, children's gallery, and a 970-seat Colonial Theater. ◆

STEPHENS PAC: ISU PHOTOGRAPHIC SERVICES INL IMAGE: IDAHO NATIONAL LABORATORY

# MOSCOW / LEWISTON

SJX Jet Boats' employees engage in some product testing on the Dworshak Reservoir.


The Port of Lewiston is the most inland port in the Northwest

Tucked away in North Central Idaho are Lewiston and Moscow, two cities with strikingly different terrains. Lewiston is an inland deep water port city with commerce revolving around the Snake and Clearwater rivers and their reach to the Pacific Ocean. Just a half hour's drive away is the university town of Moscow, situated on the rolling hills of the Palouse and surrounded by fields of wheat, barley, lentils and natural forestlands.

A unique boat manufacturers consortium is located in the Lewiston area, with more than 13 businesses working together to market their products to the world. The businesses take advantage of their location to test drive their boats on rivers that offer both turbulent white-water and shallow drafts. Lewiston's largest businesses, however, are Clearwater Paper, regional hospitals, and ATK/Alliant Techsystems Inc., part of Idaho's growing firearms industry.

Lewiston is home to the month-long Dogwood Festival, celebrating the hundreds of trees and vibrant blossoms that grace the area each spring.

In Moscow, the University of Idaho is a dominant force as one of the major employers and the center of arts and sports entertainment for the small community. Biotech and technology companies also enjoy the area, finding engineering support at the university and low business costs. Moscow sits right on the Washington border and is just a few miles from Washington State University and Schweitzer Engineering Laboratories in Pullman.

The Lionel Hampton International Jazz Festival, Festival Dance, Idaho Repertory Theatre, Renaissance Fair, Rendezvous in the Park, and the Prichard Art Gallery are reasons why Moscow is known as the "Heart of the Arts." Moscow has also been rated one of the "Best 100 Small Art Towns in America." ◆

continued on page 34

Power Engineers provided turnkey electrical and civil design and construction of electrical works for the 15-unit Kilgarvan Wind Farm in County Kerry, Ireland, and its interconnection to the ESB-National Grid. The wind farm project consisted of two 110 kV stations, a 110 kV transmission line, and the overall wind farm.

# Suppliers & Service Firms Support Renewables

By Tucker Slosburg

A number of Idaho companies have seen an uptick in business by supplying parts and services to the renewable energy sector.

LA Aluminum in Hayden Lake has been making and casting generators for the wind power industry for 12 years. The sector is now 15 percent of LA Aluminum's business and this has opened the door for related business.

The company now supplies 32-pound spools to Diamond Wire Technology, which uses diamond wires to slice carbon for solar energy cells and cuts sapphire for LED lights. After six uses of the spools, Diamond Wire sends them back to LA Aluminum, which in turn melts and recasts them.

AMET Inc. in Rexburg has definitely seen a surge in renewable energy related business. The firm, which makes advanced automated welding systems for companies like Boeing and General Electric, also designs computer and controlling systems for welding machines that manufacture wind turbines. Despite only four years of work in the renewable energy sector, it represents 20 percent of the company's revenues.

That type of growth is the reason Boise law firm Hawley Troxell last year launched a renewable energy business division.

"Whenever there are large capital investments, you have legal issues," says Nick Miller, chairman of the firm's business and finance

Renaissance Engineering and Design helped with the Banner Ridge project in Nome, Alaska


Doug Sayer, CEO, Premier Technology

AMET Inc. makes advanced automated welding systems

practice group, which oversees the new renewable division. "Because we're a large firm, we have the depth to handle all the issues, from project formation and financing to siting and regulation."

POWER Engineers, a Hailey, Idaho-based multidiscipline consulting firm, has offices in 27 U.S. cities and three abroad. The consulting ranges from engineering, designing, implementation, construction, or a combination of them all, particularly in fields of wind, solar, biomass, and especially in geothermal.

"There are just not that many companies in the world that do detail and design of geothermal," says Kevin Wallace, senior project manager for POWER. He anticipates that Idaho's renewable energy industry will continue to grow.

"We have space and resources," says Wallace. "The good news is that Idaho has some significant transmission corridors that could be accessed."

Matt Coverdale, director of Business Development for Premier Technology in Blackfoot, says the national effort to reduce reliance on foreign oil is driving Premier's sales volumes up.

"The increased demand is prompting continued growth at Premier Technology," says Coverdale, adding that Premier provides equipment and services to the nuclear power industry as well as the solar sector. "Premier continues to expand its presence in these markets, providing components and services throughout the procurement cycle, with products ranging from raw material refining to components utilized in the electrical production facilities."

Renaissance Engineering opened an office in Boise five years ago and has found wind to be a quickly growing area.

"Wind can be developed on farm or ranch land that has a minimal impact but provides ongoing additional revenues for future decades," says Brian Jackson, president and CEO. His firm not only does new product design and R&D, but also designs small and medium-scale distributed power generation projects. ◆

# Idaho Draws Big **'Wins'**

When the multinational firm AREVA was looking to locate a new uranium enrichment facility in the United States, executives were delighted by what they found in Idaho: Cooperation among communities, state and local governments, and regulatory agencies.

This was no small matter, as many companies know when it comes to siting a complex facility.

"It was refreshing to see all parties working together for the greater good of the state and its citizens," said Robert Poyser, vice president of regional affairs for AREVA. "It was clear this was a place where businesses were supported and AREVA would be welcomed. State and local officials did everything they could to accommodate our needs."

Two years later, AREVA is in the midst of developing its $3 billion Eagle Rock Enrichment Facility on a 4,100-acre site 18 miles west of Idaho Falls. AREVA isn't alone in finding a safe and business friendly haven in Idaho.

> "It was clear this was a place where businesses were supported and AREVA would be welcomed. State and local officials did everything they could to accommodate our needs."

Allstate Insurance is building a 75,000-square-foot facility in the Pocatello-Chubbuck area that will be open later this year. The company selected Idaho for a new customer information center over several other areas around the country because of "its stable employee base, attractive cost of living and strong communities."

Governor C.L. "Butch" Otter launched a comprehensive economic development plan two years ago that makes growing the economy one of his top priorities. The initiative has brought together a number of state agencies to work in partnership toward improving the current business environment, and to smooth the way for future business ventures.

Allstate announces Pocatello-Chubbuck as the site for its new facility

"We have an attractive and nurturing environment here for new business ventures," says Don Dietrich, director of the Idaho Department of Commerce. "Companies are finding that the low business costs here make a significant difference to their bottom line."

ON Semiconductor has its largest U.S. operation in Pocatello and in fall 2010 expanded the plant even more.

"Idaho is a great state in which to operate due to costs that are not imposed by government at the state or local levels," says Arlen Wittrock, Public Affairs Consultant for ON Semiconductor. "Employment insurance and worker compensation rates are favorable and the overall tax climate is a good one."

Idaho's nominal gross domestic product has grown consistently, even through the recession years. The state's GDP was $35 billion in 2000, $42 billion in 2004 and $52.7 billion in 2008.

While Idaho hasn't been immune from the worldwide recession, all indications are that the future looks positive. A state government report says that after 2010, employment is expected to continually increase each of the next two years so

ALLSTATE: BELINDA ISLEY


Robert Poyser, vice president of regional affairs for AREVA

Above, ON Semiconductor expanded in 2010

Idaho's quality of life drew Hewlett-Packard in 1973

that it will have gained back nearly all the jobs lost in the previous two years. In addition, personal income is expected to grow by 2.4 percent annually.

The value of exports through the third quarter of 2010 (most up-to-date data available at press time) trended toward the state's previous year-end record of $5 billion. The value of third quarter exports alone was up 19 percent over 2009.

In contrast to many states, Idaho is required by its constitution to have a balanced budget and so didn't face the issues that states like California and Washington did. Instead, Idaho's leaders readjusted budgets to fit revised revenue streams. In addition, legislators have kept taxes low so that businesses can rely on a stable business climate.

In the midst of uncertain times, Idaho is projected to have the fastest growth of "green" jobs, and has the nation's 7th best economic outlook. The state also has the nation's 5th lowest crime rate and is in the top 10 states for business and economic climate.

Idaho draws business leaders who want to locate in a place where their families will thrive. Its capital city, Boise, is ranked the second-best city in the nation for business and careers. Businesses also are attracted by one of the nation's lowest energy costs.

The proximity to the great outdoors is a lure that brings many to Idaho. Abundant outdoor recreational opportunities—from mountain biking to skiing, from whitewater rafting to golfing—and amazing scenic vistas attract more than 20 million tourists annually. Even those who live in the state's largest cities can enjoy a river walk or fly fishing during their lunch hour.

Local legend is the decision of a Hewlett Packard executive to locate a facility in Boise in 1973 to launch the company's imaging and printing business. The executive had planned a tour of several cities that made good business sense for the new facility and the first stop was Boise. Once he visited Boise, he canceled the rest of the tour—the quality of life the area offered for his family was too good to pass up. The printing and imaging division went on to become HP's most profitable business, with much of the research and development continuing to come from the Boise facility.

Don Schwemmer, president of AMET in Rexburg, which makes advanced automated welding systems for companies like Boeing and General Electric, says a loyal and dedicated workforce is part of their success story.

"We really have a good employee base here," said Schwemmer. "We don't have to spend time dealing with employee problems. We can spend our time focusing on business." ◆

# Entrepreneurial Ecosystem Helped By Universities, Research Institutions

Idaho State University students conduct research on wind energy in Southeast Idaho

Idaho consistently ranks tops in the nation for innovation with the most patents per capita. This comes from having large research and development companies such as Micron Technology and Hewlett Packard and also strong universities that encourage research.

The Idaho National Laboratory, one of 10 multi-program laboratories in the country, has a robust technology deployment program that helps move patented technology into the marketplace and also partners with private industry.

In 2009, the Kauffman Foundation ranked Idaho as the 4th most entrepreneurial state in the country. Idaho is known for its nurturing environment for start-ups, with a number of programs that help young companies connect to resources.

The renewable energy industry is also supported by Idaho's top universities and colleges—through collaborative research, partnerships and training programs—as well as the Idaho National Laboratory, which has ongoing research in a number of renewable energy sectors.

Boise State University has one of six national Wind Application Centers, and its College of Engineering has been involved in wind energy research since 2002, partnering with the U.S. Department of Energy.

In addition, the Idaho National Laboratory has ongoing research in a number of energy fields, from fuel cells and low-power batteries to biomass and new alternative fuels.

It also is working to develop techniques that can dramatically increase wind energy use in the western United States and has a significant bioenergy program.

The INL has a technical assistance program that provides up to 40 hours of free technical support to certain businesses. The program is available through a federal mandate to promote U.S. competitiveness by supporting private enterprise. In addition, the federal laboratory has a work-for-others program that provides fee-based assistance.

College of Southern Idaho offers a popular wind energy program that trains wind turbine technicians. The college offers custom training courses for employers on a variety of topics.

Idaho State University has an Energy Systems Technology and Education Center that offers training in energy systems mechanical engineering technology and energy systems wind engineering technology. The programs train technicians to install, maintain and service wind turbines.

Finally, Idaho has the Center for Advanced Energy Studies (CAES), a partnership between the Idaho National Laboratory, Idaho universities and private industry. Its mission is to train the next generation of energy professionals in a variety of industries, from nuclear to renewable energy. CAES has donated several wind turbines to Idaho universities to better enable practical skills in training programs. ◆

WIND STUDENT IMAGE: ISU PHOTOGRAPHIC SERVICES

# ALTERNATIVE ENERGY • EDUCATION

Smart alternatives are what the College of Southern Idaho in Twin Falls is all about.

- Nearly 120 Academic and Technical programs on one beautiful campus
- Easy transfer to four-year universities
- Lower tuition/fees than other Idaho colleges/universities
- Idaho's first renewable energy technical training programs with the new Alternative Energy Building ready in 2012

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315 Falls Avenue
Twin Falls, Idaho 83301

# Tax Incentives
# Why Idaho?

Tech Help offers solutions for manufacturers, processors and inventors including training, on-line resources and lean office systems. Ballard Cheese and Woodland Router are two of the many companies that have worked with Tech Help.

Together with some of the lowest overall costs of doing business in the country, Idaho has a variety of incentive programs designed to assist business start-up, business expansion, and business productivity.

From financial incentives to business tax credits to worker training programs, Idaho's incentives are designed to enhance overall profitability and make doing business from Idaho very attractive. Plus, Idaho is near the top in virtually all indicators of business and economic vitality.

Companies looking to expand into Idaho should consider:

- A reasonable income tax. Companies that manufacture and process typically pay much less than the state's 7.6 percent corporate income tax rate. That's because of a generous investment tax credit for capital intensive businesses. Tax credits carry over 14 years.
- No sales tax for equipment or raw materials used in food processing, manufacturing, pollution control equipment, utilities or industrial fuels.
- Idaho is third in the nation for the most reasonable property tax. Then again, there is a good chance that companies won't pay property tax for the first five years after start up. An Idaho statute allows local counties to make that decision for manufacturing enterprises that invest a minimum of $3 million.
- The Idaho Department of Labor can offer businesses customized recruiting services as well as workforce training. Financial reimbursement up to $3,000/employee is available to eligible companies for training new employees. Idaho's colleges and universities also offer customized workforce training programs.

There are more incentives to consider.

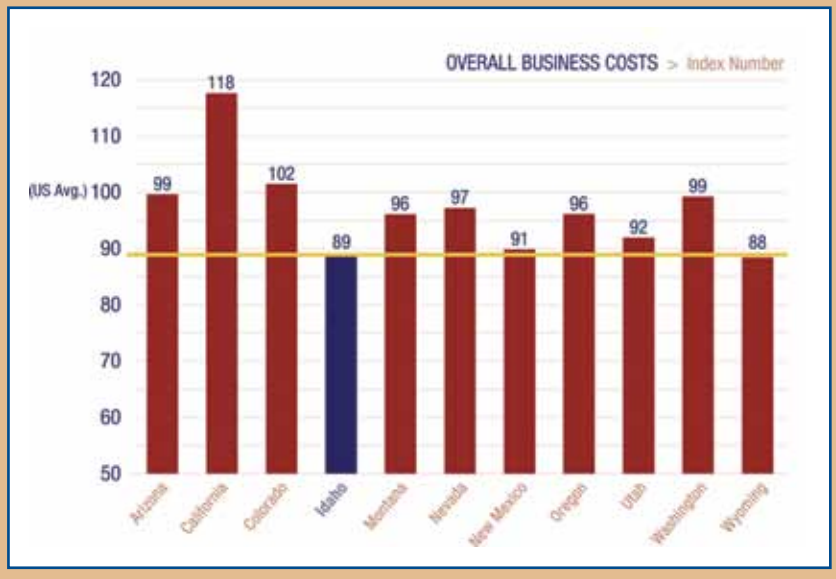
For a complete list, go to :

www.commerce.idaho.gov/business/incentives

**COST OF LIVING INDEX**

| | Average Composite Index |
|---|---|
| Idaho | 92.1 |
| Arizona | 104.4 |
| California | 136.8 |
| Colorado | 95.2 |
| Montana | 101.3 |
| Nevada | 102.5 |
| New Mexico | 98.2 |
| Oregon | 110.0 |
| Utah | 98.2 |
| Washington | 108.2 |
| Wyoming | 98.3 |

ACCRA First Quarter 2010



Micron Technology, based in Boise, is one of the world's largest DRAM manufacturers

continued from page 8

Food manufacturing has grown rapidly with a number of cheese companies taking advantage of Idaho's large dairy industry. There are also makers of milk and beef products, tortillas and—of course—french fries.

The health care industry is the new rising star. St. Luke's Idaho Health System is the largest private employer in the state, with a number of hospitals and health centers. The expanding need for health care services has led to the rise of research centers, nursing and residential care facilities, and health and personal care stores.

According to Idaho's Department of Labor, jobs in hospitals are projected to grow by 24 percent over the next decade, while ambulatory health care services will grow by nearly 34 percent. The hottest jobs of the future in Idaho are projected to be in data processing, hosting and related services, which is projected to grow by 70 percent over the next decade. Other fast-growing industries in the Department of Labor's report include telecommunications (32 percent), motor vehicle and parts dealers (26 percent) and professional, scientific and technical services (33 percent).

Overall, job growth in Idaho is expected to beat the national rate through 2018. Idaho's job growth is expected to be 15.6 percent, according to the Idaho Department of Labor. ◆

**In 2009 and through the first half of 2010 (the latest data available), the biggest industries in Idaho in terms of employment were:**

1. Retail trade
2. Health care and social assistance
3. Manufacturing
4. Accommodation and food services
5. Administrative and support and waste management and remediation services
6. Construction
7. Professional, scientific and technical services
8. Wholesale trade
9. Agriculture, forestry, fishing and hunting
10. Finance and insurance

# Recharge your battery in the Gem State

By Danielle Gruden

The Payette River Scenic Byway is one of the most traveled roads in Idaho. Its winding two-lane road cuts through forests and valleys—at several points offering breath-catching sheer drop-offs to the white-water below. Next are the calm straightaways that enable travelers to admire the surrounding beauty of soaring mountains and charming small towns.

"This is the most beautiful place we've ever seen," says Mark Solon, a venture capitalist in nearby Boise and frequent traveler into this region. "I love how quiet it is, with no distractions."

While Idaho's capital city offers city life, the ease of escaping to places like the Payette River byway—where the population averages three people per square mile—provides an enhanced quality of life.

"The biggest difference with living here is the opportunity to recharge your battery on a daily basis," says Solon, who moved to Boise from Boston several years ago.

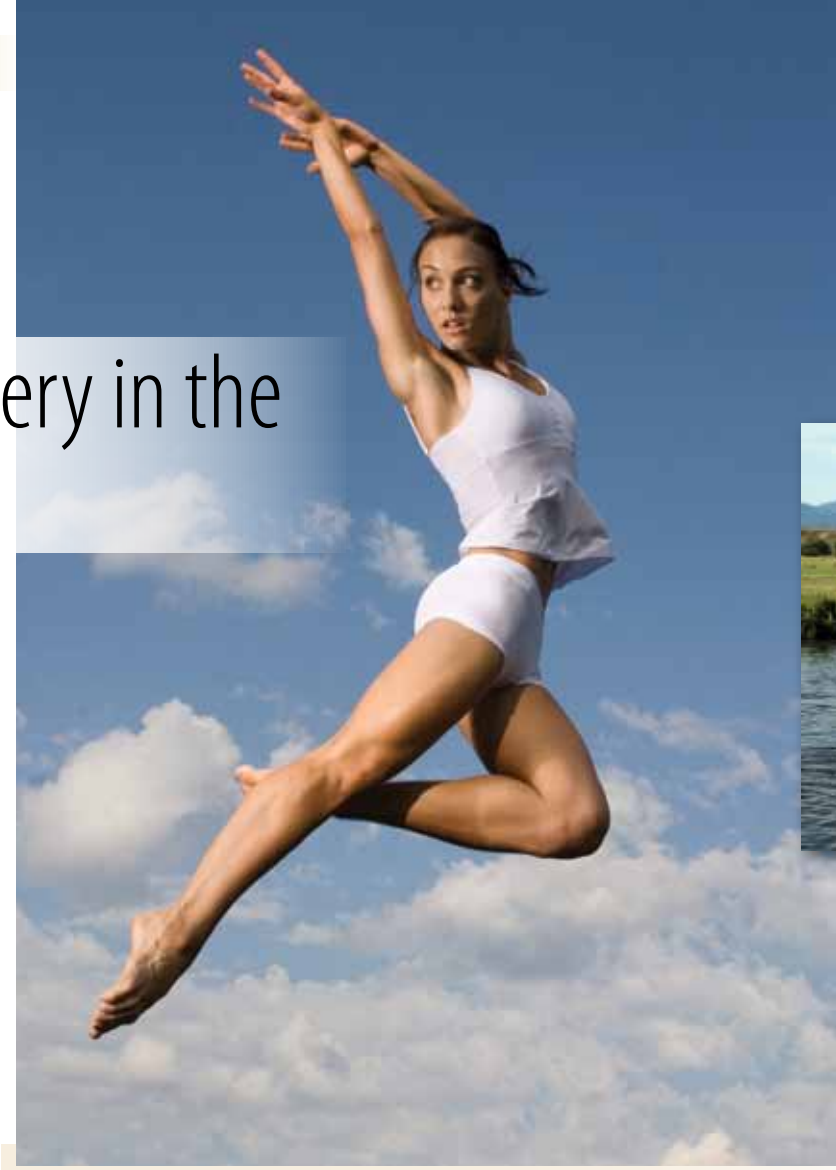
Depending on who you are, recharging your battery can mean different things. For some, it's cultural activities; for others, it's the call of the wild. Both are readily available in Idaho. If you stretch boundaries just a bit, both are along the Payette River Scenic Byway region.

## Boise and the arts

The byway starts in Boise at the crossroads of highways 44 and 55, at the edge of Idaho's largest metropolitan area.

Beyond the acclaimed Idaho Shakespeare Festival, the downtown First Thursday art walk, symphony, art museum, alternative film festival, opera and theaters, there's a newcomer to Idaho's robust arts community.

The Trey McIntyre Project, a contemporary dance company, burst onto the dance scene in 2005 with its unique and stunning choreography. The company's repertoire spans rock, classical, jazz and folk music and has received support from organizations such as The National Endowment for the Arts, M.J. Murdock Charitable Trust, Jerome Robbins Foundation and National Dance Project.



World renowned Trey McIntyre Project is based in Boise

In December, Trey McIntyre was named the United States Artists Wynn Fellow, the company was featured on PBS NewsHour with Jim Lehrer, and also was chosen by the U.S. Department of State and Brooklyn Academy of Music as one of four American dance companies chosen to participate in DanceMotion USA.

As part of DanceMotion USA, Trey McIntyre Project will tour to China, South Korea, the Philippines and Vietnam in Spring 2012, serving as a U.S. Cultural Ambassador. While the company tours the world, it still makes time for programs in Boise, where its headquarters is based. If you're interested, book early—tickets are snapped up quickly.

www.treymcintyre.com

Idaho offers something for every outdoor enthusiast

## Payette River Adventures

The 111-mile byway offers plenty of white-water views. For those looking for a scenic drive, you won't be disappointed. Aside from the curving river, you're likely to see everything from red-tailed hawks and golden eagles to elk and white-tail deer.

If you're more adventurous, however, there are plenty of opportunities for whitewater rafting, tubing and—one of Idaho's favorite sports—fly fishing.

Idaho has 3,100 miles of steady-flowing rivers and more whitewater river miles than any other state in the lower 48. The Payette River has some of the most wild water in Idaho, with some areas requiring expert skills.

Don't worry. There's whitewater for all skill levels and guided tours geared toward families. Guided trips can last a half-day to several days on Idaho's rivers; trips along the Payette typically are only offered in half-day and full-day segments.

You also can take matters into your own hands at the new Kelly's Whitewater Park in Cascade. It's free to drop your kayak in and practice on the five water features offered at this stretch of river. Tubers, rafters and canoeists are also welcome.

www.kellyswhitewaterpark.com

or see more Idaho whitewater opportunities at

www.visitidaho.org.

## McCall High Country

This mountain resort town is defined both by its shores along the crystal clear Payette Lake and nearby Brundage Ski Resort. The ski resort is a local favorite but there are ski resorts in every corner of Idaho—along with the famous one in the middle of the state, Sun Valley.

If lake sports and views, or snow skiing isn't enough, there is plenty more to do in this high country near the end of the Payette River Scenic Byway.

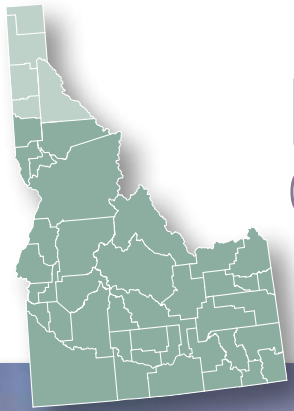
In late January, the McCall Winter Festival features larger-than-life snow sculptures, a Mardi Gras parade, and snowshoe golf among other activities. Visitors can also enjoy the numerous shops and galleries.

Fly fishing is a big activity in Idaho and the McCall area, with 300 lakes within 20 miles, makes a great base camp. You can pick up supplies here or find a guide—some offer tours to back country lakes and streams using pack goats and llamas for a unique experience.

Ponderosa State Park, just minutes from downtown McCall, is basically a 1,000-acre peninsula that juts into Payette Lake. The park has numerous hiking and biking trails, and offers guided walks with park naturalists and evening campfire programs. Wildlife such as bald eagles, beaver and bear live in this area.

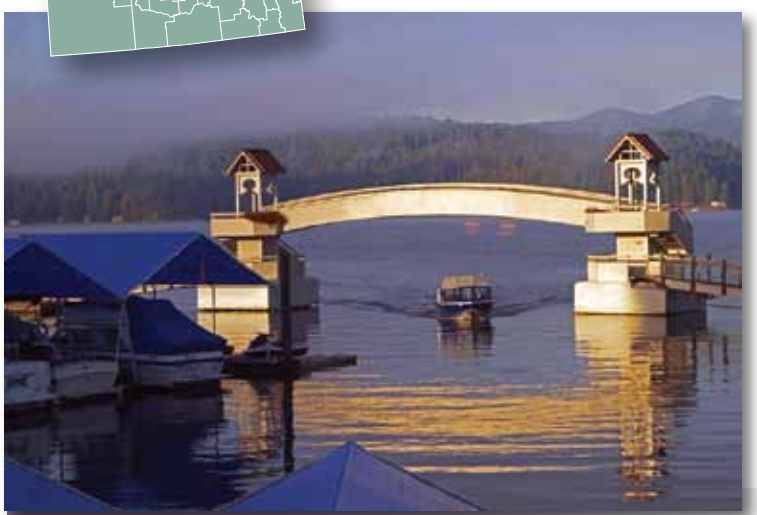
While the byway is only 111 miles long, no one will want to drive it without stopping at one of the many towns and attractions along the way. This is the perfect weekend trip—or if you're Mark Solon or another Idahoan—frequent weekend trips. This is the Idaho that Idahoans know, far from the perils of car fumes and honks.

"Life is simpler here; people have their priorities straight," says Moya Shatz, director of Idaho's Wine Commission (visit www.visitidaho.org/thingstodo/wineries.aspx ). "There is a good work-life balance here." ◆



# NORTHERN IDAHO

## Coeur d'Alene- Bonners Ferry



Boating on Lake Coeur d'Alene

BIKERS: JOSHUA ROPER

Northern Idaho—bordered by Montana, Washington and Canada—has a number of communities with historical roots in mining and forestry. Today, the region is highly diversified and is also known as a tourism mecca, drawing recreationists from around the world.

The Coeur d'Alene and Post Falls metropolitan area has strong manufacturing and customer service center industries. Coldwater Creek has its worldwide headquarters here, and the area is also home to Buck Knives and Litehouse Dressing.

Mining, especially in the Silver Valley east of Coeur d'Alene, is still a vibrant industry with a number of mines in operation. The Silver Valley is one of the richest silver mining regions in the world and other metals being mined include gold and base metal deposits.

Of course, there is the beautiful Coeur d'Alene Resort, home of the world's only floating golf

green, on the shores of the scenic Coeur d'Alene Lake. Outdoor activities are numerous—from hunting and fishing to skiing and hiking. Year round recreational opportunities can be found at Schweitzer Mountain Resort in Sandpoint, the Kootenai National Wildlife Refuge in Bonners Ferry or Silver Mountain Resort in Kellogg.

It's fun to explore the region's historical communities, enjoying the downtown charm and unique shopping districts. Sandpoint is recognized as one of the nation's best small arts towns with a dynamic visual and performing arts scene. In Coeur d'Alene, you can stroll along the lake before choosing among casual pubs or fine dining in the nearby downtown corridor. And the small town of Wallace, in the Silver Valley, offers a tour of the town's old bordello, a remnant of older mining days. ◆

Boulder Beach Water Park at Silverwood Theme Park located just north of Coeur d'Alene

# Idaho Products Used Around the World

Ever had a McDonald's french fry or ordered trout in a restaurant? Used a cell phone camera? Owned a computer?

Chances are that you've done a few of these. And that means you've eaten, used and purchased Idaho products.

Freeze-dried french fries were invented in Idaho and the Boise-based Simplot Company continues to be a major supplier of potatoes to the McDonald's restaurants. Eighty percent of the country's farmed trout are raised in the crystal clear spring waters of Idaho's Hagerman valley.

Cell phone cameras? Computers? Micron Technology in Idaho is one of the world's largest manufacturers of computer memory as well as products such as microdisplays for camera viewfinders.

Idaho products are found around the world and the demand for them grew rapidly in 2010, to nearly record levels. Leading the growth in 2010 were products such as semiconductors, aircraft and locomotives, as well as office machinery, precious stones and metals, and paper and wood products.

Other Idaho products range from onions, beef and vegetable seeds to musical instruments, golf carts and ammunition.

"We aggressively help our companies find international markets through our trade offices in China, Taiwan and Mexico, as well as other regions of the world," said Don Dietrich, director of the Idaho Department of Commerce.

Mexican delegates buying wood in Idaho


Governor Butch Otter in Beijing 2010

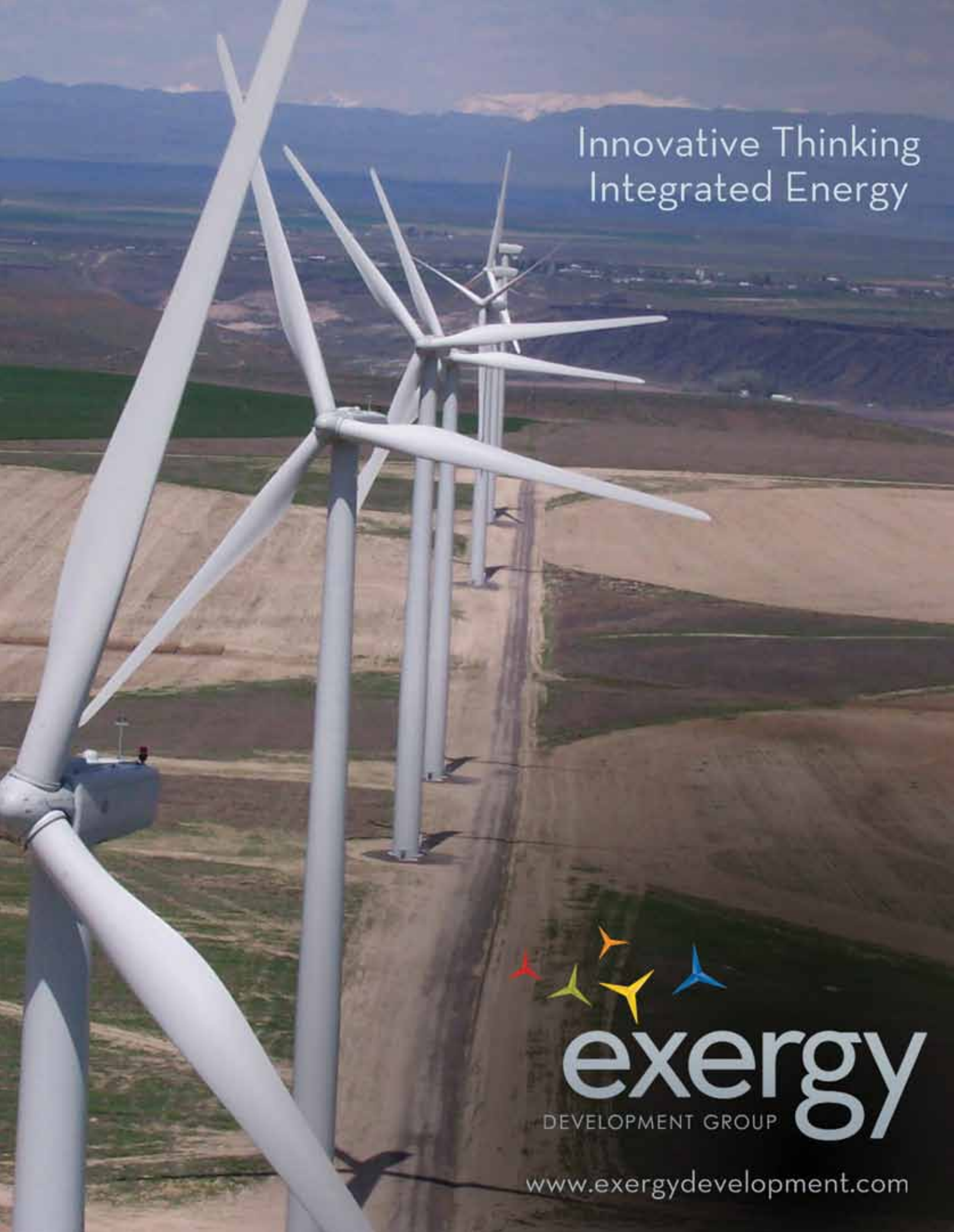
Canada is the top destination for Idaho goods, followed by Singapore, Taiwan, China and Korea. Idaho's top 10 product destinations also include the European market. Idaho companies export products to more than 115 countries.

The Idaho Department of Commerce promotes trade between businesses and global companies through many services including foreign direct investment. FDI activities may include joint ventures between international and Idaho companies, those companies investing in Idaho companies, or companies building manufacturing facilities in Idaho.

The state also has two EB-5 regional centers, fostering international investment. The EB-5 program, facilitated through the U.S. Department of Homeland Security, grants foreigners permanent U.S. residency in exchange for helping establish U.S. businesses and creating jobs.

"We work with international investors interested in a solid place for their investments, as well as a place where their family would love to live," said Dietrich. ◆

More information is at www.commerce.idaho.gov/investments/eb-5-regional-center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